UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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ART UNIT	PAPER NUMBER
2619	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	09/943,424	KLIGER ET AL.
	Examiner	Art Unit	
	CASSANDRA DECKER	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>03 July 2008</u>.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>71-89 and 96-106</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>71-89 and 96-106</u> is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☐ All   b) ☐ Some * c) ☐ None of:
         1. ☐ Certified copies of the priority documents have been received.
         2. ☐ Certified copies of the priority documents have been received in Application No. _____.
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date <u>17 July 2008</u>.

4) ☐ Interview Summary (PTO-413)
     Paper No(s)/Mail. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Claim Rejections - 35 USC § 103

1.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed
> or described as set forth in section 102 of this title, if the differences between the
> subject matter sought to be patented and the prior art are such that the subject
> matter as a whole would have been obvious at the time the invention was made
> to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was
> made.

2.   The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1.   Determining the scope and contents of the prior art.
2.   Ascertaining the differences between the prior art and the claims at issue.
3.   Resolving the level of ordinary skill in the pertinent art.
4.   Considering objective evidence present in the application indicating
        obviousness or nonobviousness.

3.   This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

4.   Claims 71-89 and 96-106 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Petler (US 6081519) in view of Amit (US 7127734).

        As claims 71, 73, 82, 96, and 98, Petler discloses a home network comprising a

coax backbone (Fig 1, 210-230); a plurality of network modules (Fig 1, 140), each of

said network modules being connected to the coax backbone; integrated circuitry

storing computer-executable instructions to be executed by a processor on a computer

system (see column 8 lines 50-60); and a network master module (Fig 1, Ref 110)

connected to the coax backbone, the master module that receives requests from the

network modules over the coax backbone, the requests being for bandwidth to transmit

bursts, the master module that establishes a transmission order of transmission

opportunities for the network modules to follow when transmitting bursts and that

transmits a burst over the coax backbone that allocates a transmission opportunity to

each of the modules to transmit bursts, said burst being based on said transmission

order (Col. 6, lines 7 to col. 7, line 45 and col. 9, lines 10 to col. 10, line 64, the BNU

assigns the timeslots to the request devices which will transmits burst according the

assigned time slots "transmission order"). Although Petler teaches that the network

interface may be inside the home (see column 5 lines 44-50), Petler does not teach the

network modules communicating directly over the coax backbone in a home network.

However, Amit teaches the network modules communicating directly over the coax

backbone in a home network (see column 2 lines 38-40, column 3 lines 19-30 and 54-

60, column 4 lines 31-34, and columns 25 and 26). Thus it would have been obvious to

a person of ordinary skill in the art at the time of invention to implement the

communication system of Petler with the coax network of Amit. The motivation for doing so would be to eliminate the burden of home network traffic on the cable network and improve the security of the home network.

      As claims 72, 83, and 97, Petler and Amit fail to disclose the parameters of a transmission opportunity for a selected network module depending at least in part on an amount of data ready for transmission at the selected network module in a selected transmission cycle. However, the examiner takes official notice that a method and system for assigning at least one time slot to the cable modem based on the amount of data ready for transmission in a cycle is well known and expected in the art at the time of invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to assign the time slots to the modules based on the amount of data for the teaching of Petler and Amit. The motivation would have been to reduce congestion.

      As claims 74, 84, and 99, Petler discloses in response to a predetermined burst transmitted by the master, the plurality of network modules are synchronized (Fig 7).

      As claims 75, 85, and 100, Petler discloses bandwidth allocated to each network module requesting a guaranteed quality of service (Col. 6, lines 8-24, CBR is required QOS).

      As claims 76, 86, and 101, Petler discloses a grant signal that indicates that a given network module can transmit a burst (Col. 6, lines 46-58).

      As claims 77, 87, and 102, Petler and Amit fail to disclose comprising an empty burst associated with a selected network module that has communicated that the

selected network module includes no data to transmit. However, the examiner takes

official notice that a method and system for transmitting a null packet when it has no

data to transmit is well known and expected in the art at the time of invention.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of

invention to apply these methods into Petler and Amit's method and system. The

motivation would have been to synchronize with the network.

      As claims 78 and 103, Petler discloses changing the amount of allocated

bandwidth (Col. 6, lines 7-23).

      As claims 79, 88, and 104, Petler discloses the master module is adapted to

change the order of transmission opportunities (Col. 9, lines 10-25, the modules will

transmit in a different order because each time BNU assigns a different one or more

time slots to the modules).

      As claims 80 and 105, Petler discloses using the master module to change the

order of transmission opportunities and to change the amount of allocated bandwidth

(Col. 9, lines 10-25 and Col. 6, lines 7-23).

      As claims 81, 89, and 106, Petler discloses a self-training burst that is adapted

to be received by a network module involved in a registration process (Col. 10, lines 20-

33).

5.   Claims 71-89 and 96-106 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bushmitch (US 6950399) in view of Amit.

As claims 71, 73, 82, 96, and 98, Bushmitch discloses a network comprising a coax backbone (Fig 1); a plurality of network modules (Fig 1, CM), each of said network modules being connected to the coax backbone; and a network master module (Fig 1, CMTS) connected to the coax backbone, the master module that receives requests from the network modules over the coax backbone, the requests being for bandwidth to transmit bursts, the master module that establishes a transmission order of transmission opportunities for the network modules to follow when transmitting bursts and that transmits a burst over the coax backbone that allocates a transmission opportunity to each of the modules to transmit bursts, said burst being based on said transmission order (Fig 2, CMs request bandwidth and CMTS assigns these requests by generating a grant burst such MAP to transmit to the CMs wherein the CMs are transmitting data to CMTS according the order of MAP). Bushmitch does not teach the network modules communicating directly over the coax backbone in a home network. However, Amit teaches the network modules communicating directly over the coax backbone in a home network (see column 2 lines 38-40, column 3 lines 19-30 and 54-60, column 4 lines 31-34, and columns 25 and 26). Thus it would have been obvious to a person of ordinary skill in the art at the time of invention to implement the communication system of Bushmitch with the network master module of Amit. The motivation for doing so would be to eliminate the burden of home network traffic on the cable network and improve the security of the home network.

As claims 74, 84, and 99, Bushmitch discloses in response to a predetermined burst transmitted by the master, the plurality of network modules are synchronized (Col. 4, lines 20-30).

As claims 75, 85, and 100, Bushmitch discloses bandwidth allocated to each network module requesting a guaranteed quality of service (Col. 3, lines 16-30).

As claims 76, 86, and 101, Bushmitch discloses a grant signal that indicates that a given network module can transmit a burst (Fig 4, MM).

As claim 78 and 103, Bushmitch discloses changing the amount of allocated bandwidth (Col. 1, line 45 to col. 2, line 35).

As claims 79, 88, and 104, Bushmitch discloses the master module is adapted to change the order of transmission opportunities (Fig 4, MM).

As claims 81, 89, and 106, Bushmitch discloses a self-training burst that is adapted to be received by a network module involved in a registration process (Col. 4, lines 3-18).

As claim 80 and 105, Bushmitch discloses using the master module to change the order of transmission opportunities and to change the amount of allocated bandwidth (Col. 1, line 45 to col. 2, line 35 and Fig 4, MM).

As claims 72, 83, and 97, Bushmitch and Amit fail to disclose that the parameters of a transmission opportunity for a selected network module depend at least in part on an amount of data ready for transmission at the selected network module in a selected transmission cycle. However, the examiner takes official notice that a method and system for assigning at least one time slot to the cable modem based on the

amount of data ready for transmission in a cycle is well known and expected in the art at the time of invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to assign the time slots to the modules based on the amount of data for the teaching of Bushmitch and Amit. The motivation would have been to reduce congestion.

     As claims 77, 87, and 102, Bushmitch and Amit fail to disclose comprising an empty burst associated with a selected network module that has communicated that the selected network module includes no data to transmit. However, the examiner takes official notice that a method and system for transmitting a null packet when it has no data to transmit is well known and expected in the art at the time of invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to apply these methods into Bushmitch and Amit's method and system. The motivation would have been to synchronize with the network.

Response to Arguments

6.   Applicant's arguments filed 3 July 2008 have been fully considered but they are not persuasive.

7.   In response to applicant's argument that the systems disclosed in Amit and Petler cannot be combined, or is that combination suggested by the references, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the

test is what the combined teachings of the references would have suggested to those of
ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

In response to applicant's argument that neither Amit and Petler, nor Amit and
Bushmitch teaches a system wherein the function of the master module is located within
the home, it should be noted that it would have been obvious to one having ordinary
skill in the art at the time of invention to shift the function of the master module to a
different location, it having been held that rearranging the parts of an invention involves
only routine skill in the art. *In re Japikse, 86 USPQ 70.* The motivation for doing so
would be to reduce the processing load at the headend and improve the security of the
home network.

Moreover, Amit does suggest the bandwidth assignment function being located
within the home as something that would be nice to have. "Nice to have" indicates that
such a network system is available but optional, and its presence in the disclosed
system is limited by non-technical factors such as cost. "Nice to have" does not mean
that such a function has not already been in existence for some time.

With regards to the propriety of the rejection of claims 72, 77, 83, 87, 97, and 102
and official notice that "a method and system for assigning at least one of time slot to
the cable modem based on the amount of data ready for transmission in a cycle is well
known and expected in the art at the time the invention was made," applicant is directed
to Amit, column 26, and the table appearing in that column, concerning bandwidth
allocation for a home network over coax. The item "TDM-Time Domain Multiplexing"
does indeed say that "the bandwidth allocation can be dynamic-according to the needs."

With regards to official notice that "a method and system for transmitting a null packet

when it has no data to transmit is well known and expected in the art at the time the

invention was made," applicant is directed to Jain et al. (US 4608685, dated 26 August

1986), column 6 lines 8-12: "The null packet generator 206 operates substantially as a

default data generator such that at times when no other element in the network is

actively transmitting on the data leads, a null data packet is applied to the buses ... "

Examiner respectfully asserts that the ideas of dynamic time slot assignment and the

use of null packets were both supported by prior art and well known in the art of network

communications at the time of invention.

Conclusion

8.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CASSANDRA DECKER whose telephone number is (571)270-3946. The examiner can normally be reached on Monday through Friday, 7:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CD 7/28/2008

/STEVEN HD NGUYEN/
Acting SPE of Art Unit 2619/2600